

BENNELONGIA, A NEW CYPRIDIDID OSTRACOD GENUS FROM AUSTRALASIA

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Summary

DE DECKKER, P. & MCKENZIE, K. G. (1981) *Bennelongia*, a new cypridid ostracod genus from Australasia. *Trans. R. Soc. S. Aust.* **105**(2), 53-58, 12 June, 1981.

A new Australian ostracod genus and species *Bennelongia harpago* (Family: Cyprididae Baird, 1843) is described from Queensland.

Introduction

The ostracod *Chlamydotheca australis* Brady, 1886 was described from empty shells collected at Penola, South Australia. Sars (1894) synonymized *C. australis* with *Cypris bennelong* King, 1855 after examination of New Zealand specimens but Müller (1912) queried their congeneric status. Henry (1923) followed Sars' (1894) concept of the synonymy and Chapman (1967) later transferred the species to *Cyprinotus*.

McKenzie (1971) in his review of the palaeozoogeography of freshwater Ostracoda, referred to the above species as the "*Chlamydotheca australis* species group", and pointed out anatomical differences between this group and *Cypris* and *Chlamydotheca* s.s. This therefore indirectly suggested the need to erect a new genus to include the Australian and New Zealand species.

Since a collection of ostracods from Queensland, made available to both authors by Mr C. Bentley, yielded a new species belonging to the new genus, it was decided to describe it jointly, and it is here referred to as *Bennelongia harpago* n.gen., n.sp.

Systematic description

Family CYPRIDIDAE Baird, 1845

Subfamily CYPRIDINAE Baird, 1845

Bennelongia n.gen.

Type species: *Bennelongia harpago* n.sp.

Bennelongia n.gen.

Diagnosis: Adult with strongly asymmetrical valves anteriorly; left valve beak-like anteroventrally; selvage displaced inwards with

inner list forming broad but short lip-like structure which does not extend anterodorsally. Anteroventral area of right valve usually smooth-curved but occasionally with beak-like flange. Juvenile with symmetrical valves and no beak-like structure; external surface either deeply pitted or reticulated, often with many wart-like tubercles.

Asymmetrical male maxillary palps; thoracopoda I 1st segment with two unequal setae and penultimate segment weakly divided; lateral lobe of hemipenis broadly boot-shaped.

Derivation of name: From *Bennelong*, the first aboriginal to have a long association with the early European settlers of Australia.

Discussion: McKenzie (1971) noted anatomical differences between the new genus and the genera *Cypris* O. F. Müller, 1776, *Chlamydotheca* Saussure, 1858, *Riocypris* Klie, 1935 and *Globocypris* Klie, 1939. A unique feature of the shell distinguishing *Bennelongia* from the otherwise similar South African Cypridinae, is the broad but short lip-like inner list which does not extend anterodorsally.

Bennelongia australis (Brady) and congeners are described in De Deckker (1981).

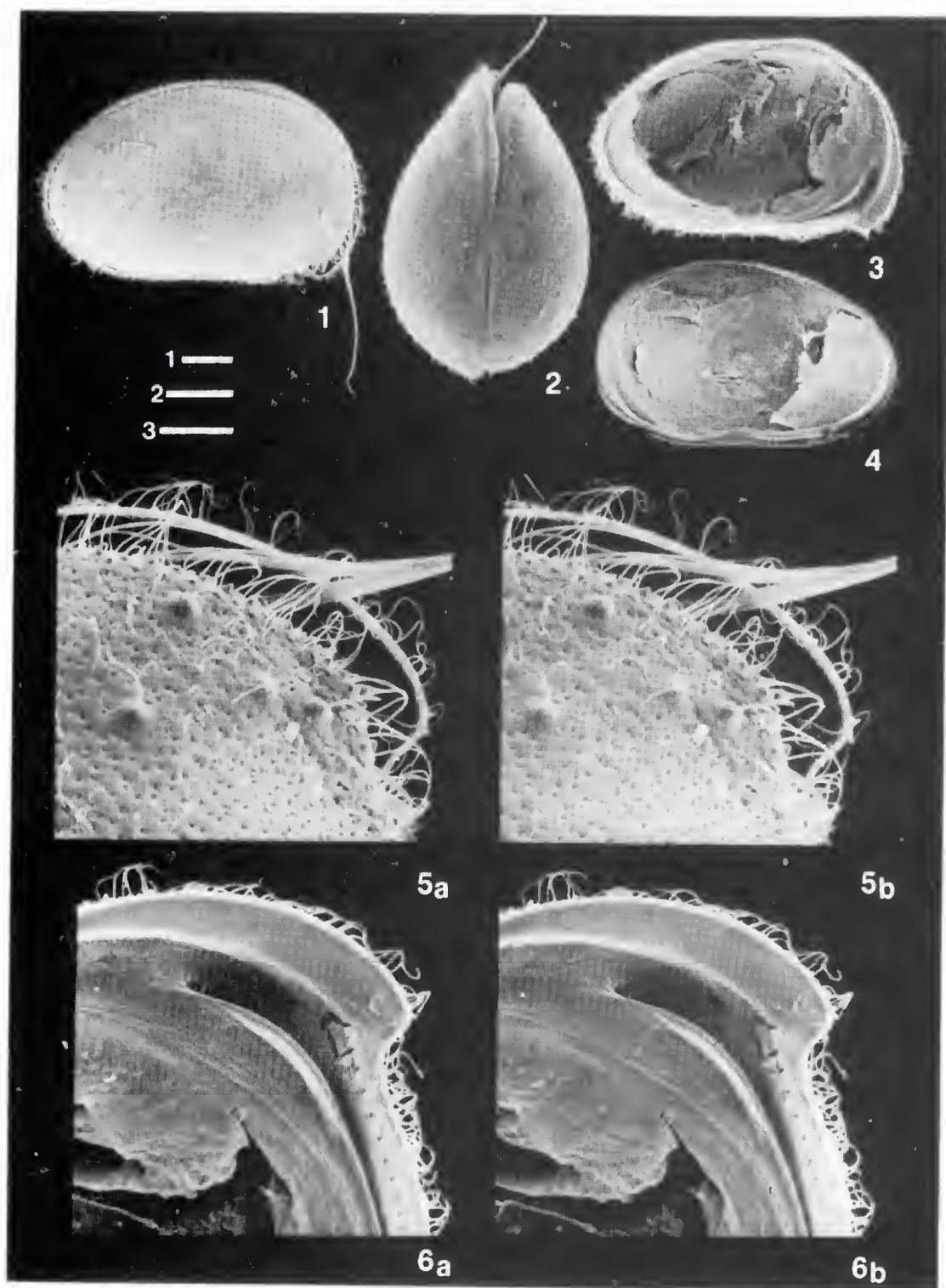
Bennelongia harpago n.sp.

FIGS 1-19

Descriptions: Carapace (external) oval to subrectangular in lateral view; oval in dorsal view. Greatest height at about 1/3 from anterior where dorsal thickening of shell forms overlap in larger left valve. Valves asymmetrical; anteroventrally, left valve "beak"-shaped and extends much further than right valve which is broadly rounded in that area. Deep concavity just posterior to "beak"-like feature of left valve, whereas mouth region only slightly inflexed in both valves. Left valve overlaps other in anterior region of hinge, posteriorly, and ventrally where overlap is broadest. Shell

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Figs 1-6. *Bennelongia harpago* n.gen., n.sp. 1. Lateral view of carapace showing RV of paratype, P31613. 2. Dorsal view of carapace of paratype P31614. 3. LV internal of holotype, P31612. 4. RV internal of holotype, P31612. Fig. 5 a-b—Detail of anterior area of Fig. 1 (stereo pair). Fig. 6 a-b Detail of anterior area of Fig. 3 (stereo pair). Scale 1 = 150 μ for Figs 1-4, 2 = 50 μ for Figs 5 a-b, 3 = 100 μ for Figs 6 a-b. LV, RV = left valve, right valve.



Figs 7. *Rensselongia harpago* n.gen., n.sp. Internal view of LV-paratype, P31615.

pseudopunctate with simple rimmed type normal pore canals and with number of broad pustules anteriorly and posteriorly, some of which are perforated by normal pores. Periphery of right valve tuberculate along ventral margin.

(Internal) Inner lamella broader anteriorly and broadest in left valve. Inner list develops into broad lip anteroventrally in left valve in "beak" region and absent anterodorsally; in front of lip is a deep groove; selvage nearly peripheral in posterior region. In right valve, inner list narrow and nearly peripheral all round except anteroventrally where it is broader; anteriorly, groove runs parallel to it. Selvage tuberculate ventrally. Anteriorly, radial pore canals long, numerous and straight. Adductor scars consist of two rows of three scars, anterior scars being slightly broader; an additional small scar behind and below bottom scar of front row, and anterior to and below posterior row. The two mandibular scars long and narrow.

Anatomy: Antennula: (Fig. 8) 7-segmented; length-width ration of last six segments: $\frac{3.4}{2}, \frac{2.1}{3}, \frac{1}{1}, \frac{1}{1.4}, \frac{0.7}{1}, \frac{1}{3}$. Natatory setae slightly longer than all segments together. Penultimate segment with one small bristle and four natatory setae and distal segment with three natatory setae. For placement of other setae and bristles see Fig. 8.

Antenna: (Fig. 13) with four claws: three equal ones all slightly pectinate on penultimate segment plus additional claw on last segment reaching tip of other three. Distal segment with additional short, slim pectinate claw. Natatory setae reaching tips of claws.

Mandible: (Fig. 12) epipod with five long and plumose Strahlen and a smaller one on side of plate; coxale with seven teeth; endopod with α bristle long, narrow and smooth, β bristle short, stout and tufted all over, γ bristle almost twice length of distal segment, and pilose in distal half.

Labrum: For detail see Fig. 9.

Rake-like organ: (Fig. 17) five teeth and additional bifid one on inner side of each rake.

Maxillula: (Fig. 15) epipod with 17 Strahlen and four downwards pointing setae; 3rd lobe with two smooth Zahnborsten; length ratio of palp segments $\frac{2.8}{1}$; distal segment

of palp rectangular.

Maxilla: (Fig. 11) endopod with three terminal bristles, one short and two others of almost equal length and slightly more than twice length of short one; epipod with five plumose Strahlen. For chaetotaxy of protopodite, see Fig. 11.

Thoracopoda I: (Fig. 14) protopod coxa with one long dorsodistal bristle, geniculate basis with one long bristle; 2nd segment with one long inner distal bristle; penultimate segment divided and bearing long inner bristle at mid-length where it is divided and two unequal inner bristles distally; distal segment with two short distal bristles, one on inner side and other on outer side. Claw long and pectinate.

Thoracopoda II: (Fig. 18) terminal segment with two unequal bristles; short one hook-shaped and half length of other.

Furca: (Fig. 16) claws unequal; anterior one 1.4 x length of other; anterior bristle half length of posterior one which is $\frac{2}{3}$ length of small claw.

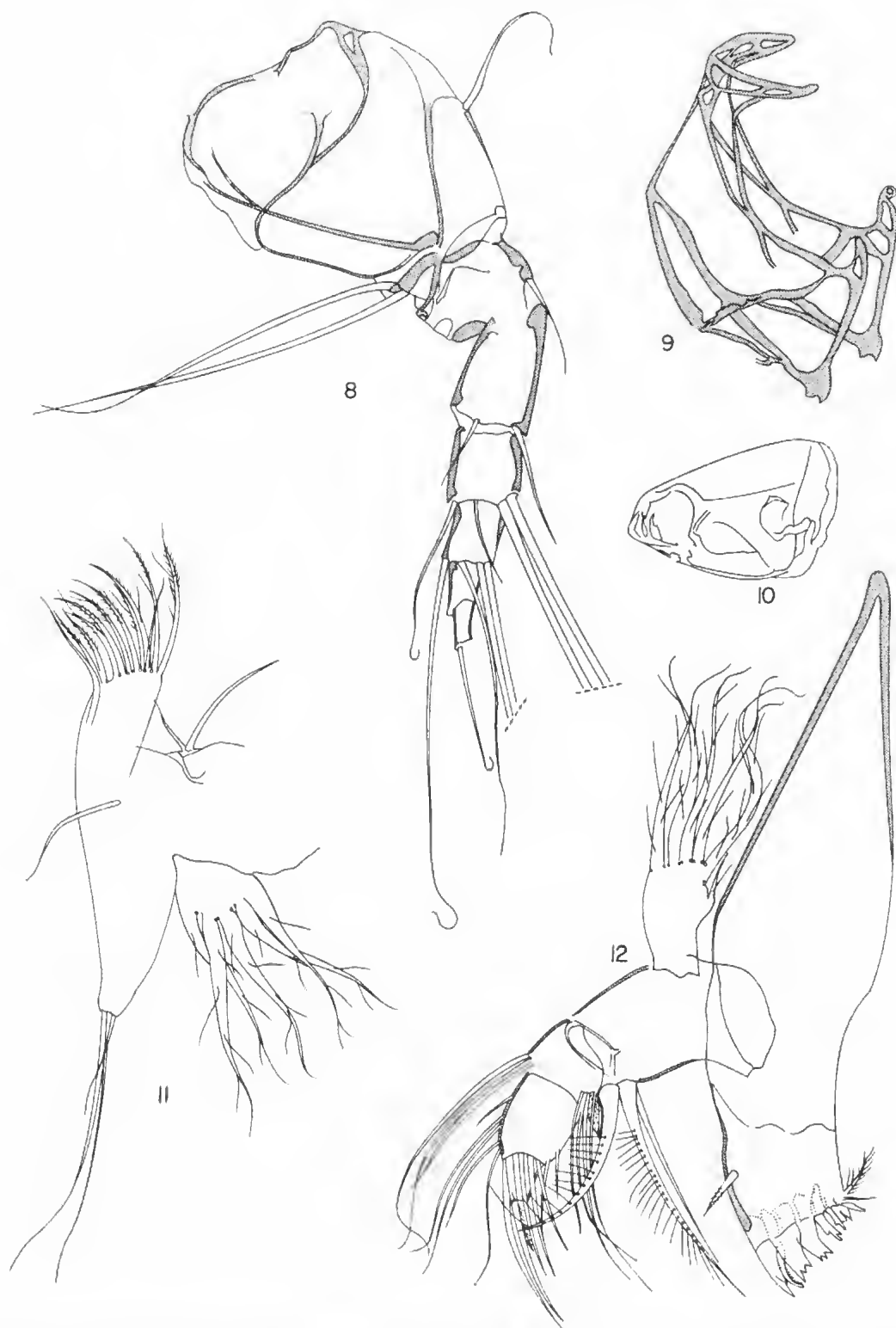
Furcal attachment: (Fig. 19) median branch slightly curved; ventral and dorsal branches forming right angle and hook-shaped at tip.

Genitalia: weakly chitinous. For outline refer to Fig. 10.

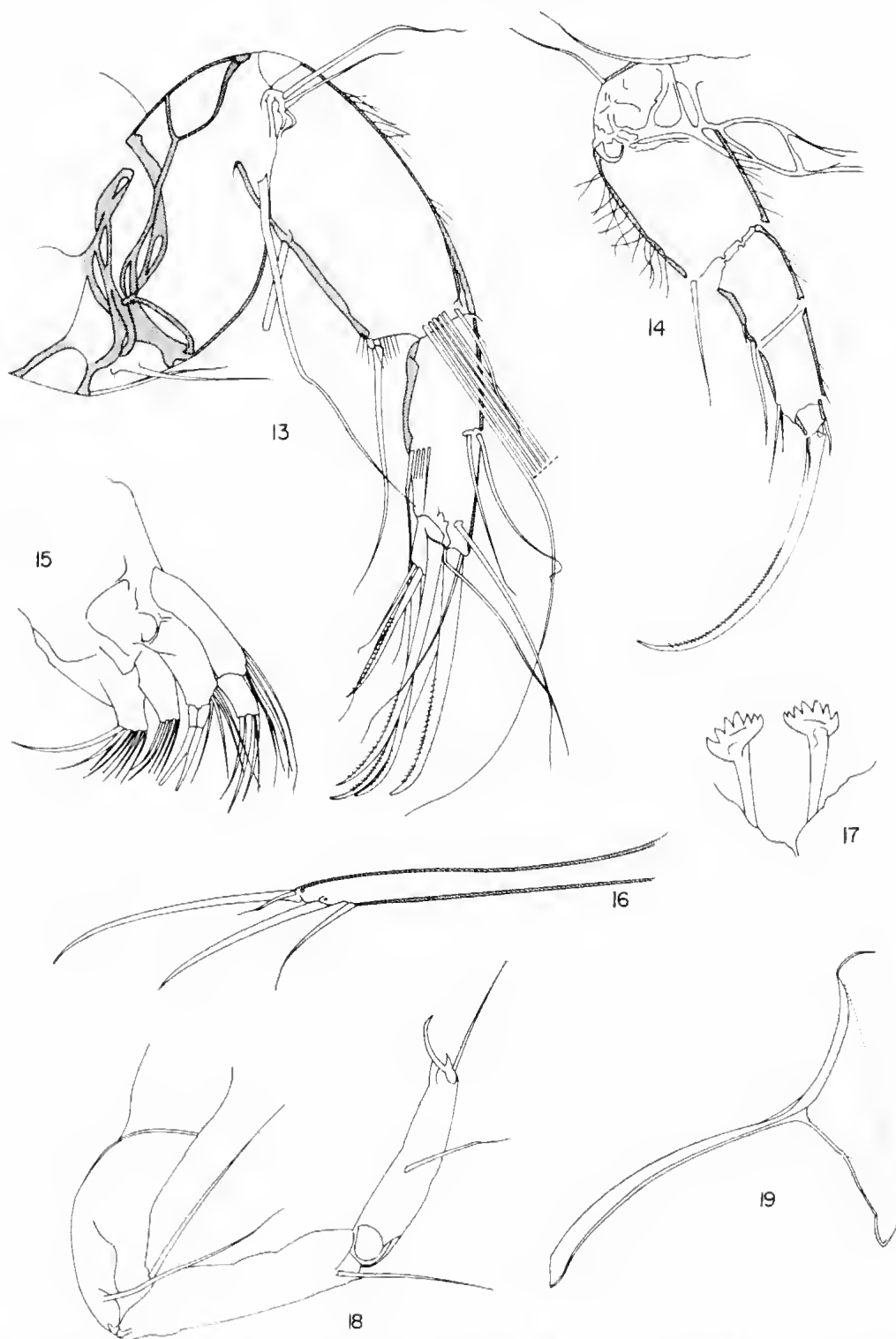
Colour of shell: green with beige strips in dorsal area.

		length	height
Size: holotype:	LV	1020μ	600μ
	RV	920μ	580μ

Holotype: AM P31612; Paratypes: AM P31613—P31615 (Australian Museum).



Figs 8-12. *Bennelongia harpago* n.gen., n.sp., holotype P31612. 8. Antennula; 9. Labrum; 10. Genitalia; 11. Maxilla; 12. Mandible; all x 150.



Figs. 13-19. *Bennelongia harpago* n.gen., n.sp., holotype, P 31612. 13. Antenna, 14. Thoracopoda I, 15. Maxillula—palps and lobes, 16. Furca, 17. Rake-like organs, 18. Thoracopoda II, 19. Furcal attachment. All x 150.

Type locality: Dam (19°16'18"S, 144°36'22"E) near Mt Teddy, beside McKinnons Creek, Lyndhurst Station, on the Kennedy Highway near Einasleigh, Queensland.

Distribution: *B. harpago* also has been collected at the following localities in Queensland: L. Powlathanga, near Charters Towers; Cauckingburra Swamp at L. Buchanan, near Charters Towers; roadside swamp at Calen; Farm Dam, Mingela.

Ecology: Found in fresh waters. At the type locality, it has been collected from the margin of the dam among aquatic plants at a depth

of about 30–45 cm. No males have been found.

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